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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,815	12/14/2004	Lars Dokkedahl	742111-163	8609
25570	7590	05/08/2007		
ROBERTS, MLOTKOWSKI & HOBBS			EXAMINER	
P. O. BOX 10064			JOHNSON, JONATHAN J	
MCLEAN, VA 22102-8064				
			ART UNIT	PAPER NUMBER
			1725	
			MAIL DATE	DELIVERY MODE
			05/08/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/517,815

Applicant(s)

DOKKEDAH, LARS

Examiner

Jonathan Johnson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 10-23 is/are rejected.
- 7) ☒ Claim(s) 5-9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 10, 11 and 18-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Leicht (USPN 5181648).

Leicht teaches a soldering method and apparatus comprising a soldering zone for vapor phase soldering including gates (locks), means for supplying forced condensing of vapor and means for supplying gas. The reference also teaches an apparatus comprising means for condensation, pumping means, a heat exchanger for cooling the vapor, which is moved through an inlet and outlet wherein the heat exchanger can operate at different temperatures. The method teaches soldering by heating at a high temperature with a condensing vapor, cooling (lower temperature) in the presence of protective gas, shutting off the vapor and condensing it (figure, col 3 line 21 – col 4 line 31, col 4 line 60 – col 5 line 50 and claims 1, 20 and 22).

3. Claims 1-4, 10, 11 and 18-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Rahn (USPN 4838476).

Rahn teaches a soldering method and apparatus comprising a soldering zone for vapor phase soldering including gates (doors), means for supplying forced condensing of vapor, means

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for supplying gas, suction means to facilitate exhaust and filters for the condensed vapor. The method teaches soldering by heating at a high temperature with a condensing vapor, cooling (lower temperature) in the presence of protective gas, shutting off the vapor and condensing it (col 6 line 6 – col 8 line 8 and col 10 lines 1-37). The reference also teaches an apparatus comprising means for condensation, pumping means, a heat exchanger for cooling the vapor, which is moved through an inlet and outlet wherein the heat exchanger can operate at different temperatures (col 7 lines 22-67).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 12-17 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rahn (USPN 4838476) in view of Master et al. (USPN 6382500 B1, IDS).

Rahn teaches a soldering method and apparatus comprising a soldering zone for vapor phase soldering including gates (doors), means for supplying forced condensing of vapor, means for supplying gas, suction means to facilitate exhaust and filters for the condensed vapor. The method teaches soldering by heating at a high temperature with a condensing vapor, cooling (lower temperature) in the presence of protective gas, shutting off the vapor and condensing it (col 6 line 6 – col 8 line 8 and col 10 lines 1-37). The reference also teaches an apparatus comprising means for condensation, pumping means, a heat exchanger for cooling the vapor,

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which is moved through an inlet and outlet wherein the heat exchanger can operate at different temperatures (col 7 lines 22-67). However there is no disclosure of a trap or fins on the heat exchanger. Master teaches an apparatus comprising a heat exchanger with fins for cooling the vapor, which is moved through an inlet and outlet wherein the heat exchanger can operate at different temperatures and a trap (col 4 line 33 – col 5 line 20

It would have been obvious to one of ordinary skill in the art at the time of the invention to employ a trap as part of the flux condensation filtration and recirculation system as is conventional to facilitate condensate collection and to use a heat exchanger with fins as this is a common configuration and would facilitate more efficient cooling.

#### ***Allowable Subject Matter***

Claims 5-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance: The prior art of record does not suggest or teach a not teach an actuated, perforated cover for the vapor vessel.

#### ***Response to Arguments***

Applicant argues that the examiner improperly relies on Leicht's cleaning apparatus as part of the solder apparatus. The examiner disagrees. During patent examination, the pending claims must be “given the broadest reasonable interpretation.” Applicant always has the opportunity to amend the claims during prosecution, and broad interpretation by the examiner

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reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969). In the instant case, it is the examiner's position that Leicht's cleaning/soldering apparatus can broadly be interpreted as a "soldering zone" when this apparatus is viewed in light of the overall semiconductor manufacturing process.

Applicant next argues that Rahn's protective gas, which is essentially air (see Rahn, col.8, ll. 6-7), cannot be construed to be a "protective gas". The examiner disagrees. As stated previously, during patent examination, the pending claims must be "given the broadest reasonable interpretation." Applicant always has the opportunity to amend the claims during prosecution, and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969). In the instant case, the examiner interprets Rahn's air to be a "protective gas" in that Rahn's air does not react with or cause an explosion when in contact with the treatment vapor.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Johnson whose telephone number is 571-272-1177.

The examiner can normally be reached on M-Th 7:30 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Jonathan Johnson  
Primary Examiner  
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